

REMARKS

The Office Action of April 11, 2008, and the prior art cited and applied therein have been carefully studied. The claims in the application remain as claims 1, 2, 10, 11, 13-20 and 23-28, and these claims define patentable subject warranting there allowance. The applicants again therefore respectfully request favorable reconsideration and allowance.

The independent claims 1, 11, 13 and 15 have now been amended above, and therefore all of applicants' claims are so amended, to further specify that only one single substrate-enclosing layer is on the metallic substrate. Support for such amendments appears throughout applicants' specification and particularly in the examples which show the application of only a single layer. Elsewhere, the specification refers to "a substrate-enclosing layer", (page 3, line 12) as well as "The layer" (page 4, lines 11 and 14), and "the layer" (page 3, line 19).

In addition, the disclosure at page 4, lines 8 and 9, explicitly states that the "optical properties are not impacted by the surrounding layer, or only to a small degree. The same applies for the haptic properties." These

properties, especially the haptic properties, depend on the outer layer of the pigment; therefore, if additional layers were to be applied, the reference to the haptic properties of the substrate-enclosing layer would make no sense.

Claims 1, 2, 10 and 16-20 have been rejected as obvious under Section 103 from newly cited and applied Schmid et al USP 5,607,504 (Schmid) either alone or in view of the short article entitled "Pigments for high performance" of July 1998. This rejection is respectfully traversed.

Schmid clearly relates to metallic substrates which are coated with a plurality of layers, contrary to the present invention. The Schmid Abstract in the first sentence states, "Luster pigments based on **multiply** coated plateletlike metallic substrates...." (Emphasis added). Similar language appears in the first sentence of column 1. To provide only a single layer, as applicants have done, would be to fly in the face of Schmid, the very antithesis of obviousness.

Moreover, applicants have surprisingly found that it is possible to provide metal effect pigments having a superior resistance against the aggressive media, including sweat and saliva, and even so are encapsulated with only one single substrate-enclosing layer of a barrier material. This is

important because an object of the present invention was to provide metal effect pigments which can be used in the field of cosmetics and which are especially resistant against sweat and saliva.

It should be clear that the thinner the barrier layer, the higher is the specific coverage of the metal effect pigments (covered area per weight unit of barrier material). The specific coverage is conferred by the plate-like metallic substrate particle. Applying a given amount of barrier material to provide a single substrate-enclosing barrier layer leads to a reduced thickness.

In the present case it was surprising that a thin substrate-enclosing barrier layer could be used, thereby maintaining the specific coverage of the metal effect pigments, and simultaneously providing the required resistance against sweat and saliva and thereby preventing the release of metal ions into the carrier medium.

It should be clear that Schmid does not teach the skilled person that a substrate-enclosing barrier layer with a layer thickness between 20 nm and 50 nm would be sufficient to provide the resistance against sweat and saliva that is required in the field of cosmetics.

Moreover, the skilled person would not contemplate the use of the teachings of Schmid for metal effect pigments with only a single layer, because Schmid only discloses multiple coated metal effect pigments having optical properties which rely on at least two layers with different refractive indices (Schmid, e.g., claim 1; Abstract; column 1, lines 4-9).

Furthermore, Schmid discloses pigments coated with high and low refractive index interference layers of defined thickness (Schmid, column 2, lines 19 to 38) that provide different refractive indices and have intensive interference colors (Schmid, column 4, lines 43 to 47). This interference color is intensified by an increasing number of layers when two or more layers possess the same optical thickness.

A comparison of the metal effect pigments of the present application vis-à-vis the pigments disclosed by the cited state of the art clearly demonstrates that the skilled person would have had no reason (nor any incentive or motivation from the prior art) to use the indicated metal substrates together with a single substrate-enclosing layer having a thickness of 20 nm to 50 nm in order to provide metal effect pigments which are particularly resistant against sweat and saliva and have a very good coverage.

The pigments disclosed by Schmid may be prepared in a wet-chemical process by coating the metal substrate with a colorless metal oxide having a low refractive index (claim 3 and 8) followed by isolation and subsequent drying (column 5, lines 58 to 62) of the intermediate product which is then coated with a metal oxide having a high refractive index (claim 4).

Schmid discloses that the metallic substrate may have been passivated (column 4, lines 6 to 10) but it is also silent about any resistance of the claimed pigments against sweat and saliva.

Furthermore, by comparing the ratio of SiO₂-coating to metallic core of the pigments disclosed in the examples of the present application with the intermediate products disclosed in the examples of Schmid, it is apparent that Schmid teaches away from the present invention by advising the skilled person to use a significantly higher SiO₂-content.

	Example	SiO ₂ -content	SiO ₂ -coating / metallic core
present application:	1	4,7%	$4,7\% / (100 - 4,7)\% = 0,049$
	2	8,8%	$8,8\% / (100 - 8,8)\% = 0,096$
Schmid et al:			
	1	42,7%	$42,7\% / (100 - 42,7)\% = 0,745$
	2	39,6%	$39,6\% / (100 - 39,6)\% = 0,655$
	3	52,4%	$52,4\% / (100 - 52,4)\% = 1,100$
	4	25,0%	$25,0\% / (100 - 25,0)\% = 0,333$
	5	49,0%	$49,0\% / (100 - 49,0)\% = 0,960$

The secondary reference has not been cited to overcome the deficiencies noted above and does not do so.

Therefore, even if the purposed combination were obvious, the reconstructed Schmid (in view of the secondary reference) would not reach even claim 1.

Withdrawal of the rejection is in order and is respectfully requested.

Claims 1, 2, 10, 13, 14, 17, 18, 25 and 26 have been rejected as obvious under Section 103 from Andes et al WO 00/09617 (Andes) in view of "Pigment for high performance". This rejection is respectfully traversed.

In general, Andes suffers from the same deficiencies as does Schmid, as noted above. Even the title of Andes is "Multi-layer Pigments..." Thus, Andes also does not teach that a substrate-enclosing barrier layer would be sufficient to provide the needed resistance against sweat and saliva required in the field of cosmetics. Also, Anders (like Schmid) only discloses pigments which rely on at least two layers with different refractive indices (paragraph [0021]).

Like Schmid, Andes also discloses pigments coated with high and low refractive index interference layers (paragraph [0026]) having intense interference colors (paragraph [0020]) intensified by increasing the number of layers.

The pigments disclosed by Andes are prepared by a one-pot process (paragraph [0015]). In an initial step the metal substrate is coated at a pH of 6 to 11 with an amorphous glassy layer (paragraph [0027]) which is then coated for example with a highly refractive metal oxide at a strongly acidic medium without isolation or purification of the intermediate product (paragraph [0028]).

Andes discloses that the metallic substrate may be inertized or passivated (paragraph [0026]) but they are silent about any resistance of the claimed pigments against sweat and saliva.

Furthermore, by comparing the ratio of SiO₂-coating to metallic core of the pigments disclosed in the examples of the present application with Andes it is apparent that Andes also teaches away from the present invention by advising the skilled person to use a significantly high SiO₂-content.

	Example	SiO ₂ -content	SiO ₂ -coating / metallic core
present application:	1	4,7%	$4,7\% / (100 - 4,7)\% = 0,049$
	2	8,8%	$8,8\% / (100 - 8,8)\% = 0,096$
Andes et al:			
	1	57,5%	$57,5\% / 32,5\% = 1,769$
	2	57,5%	$57,5\% / 32,5\% = 1,769$
	3	55,6%	$55,6\% / 33,3\% = 1,669$
	4	52,0%	$52,0\% / 31,7\% = 1,640$
	5	66,3%	$66,3\% / 19,9\% = 3,331$

It is indisputable that Andes, like Schmid, only discloses multiple-layer coatings, and therefore provides not the remotest hint to the person of ordinary skill in the art

to use only a single layer; and provides no reasonable expectation that a single layer would accomplish any useful objective.

It is not clear to applicants for what purpose "Pigments for high performance" is relied upon. Regardless, applicants do not see anything in this secondary reference which would have caused the person of ordinary skill in the art to depart from the clear teachings of Andes (or Schmid) to use only a single layer, contrary to the clear requirements of Andes (and Schmid).

Withdrawal of the rejection is in order and is respectfully requested.

Claims 11, 15, 23, 24, 27 and 18 have been rejected under Section 103 as obvious from Schmid in view of Bolger et al USP 3, 389,105 (Bolger) and further in view "Pigments for high performance." This rejection is also respectfully traversed.

Schmid has been discussed above, and applicants' comments above relative to Schmid are respectfully repeated by reference.

"Pigments for high performance" is discussed above, and again applicants' comments are respectfully repeated by reference.

Bolger discloses flake metal powders coated with fluorocarbon resin. Bolger describes how to make flake metal powder, used as metallic pigments in inks, paints and the like, by grinding finally divided metal in a ball mill, stamping mill or the like, in the presence of the resin as a grinding agent. This patent appears to concern the manufacture of the substrate, and does not teach any modification which could be introduced into Schmid which would result in a reconstructed Schmid corresponding to or even approaching the present invention. Accordingly, even if the proposed combination were obvious it would not lead to the claimed subject matter.

Withdrawal of the rejection is in order and is respectfully requested.

The Office Action contains a number of statements with which applicants do not agree or necessarily agree, including "overlapping" ranges, the criticality or absence of criticality of dimensions or other parameters, impurities, process recitations, and the weight to be given to claims

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preambles. Applicants respectfully reserve the right to argue such points at a later time, if necessary or desirable.

Applicants respectfully request the favor of a telephone call from the examiner if the examiner is not prepared to allow this application, so that applicants can arrange for an interview (either telephonic or face-to-face) before the issuance of any final action.

Applicants believe that all issues raised in the Official Action have been addressed above in a manner that should lead to patentability of the present application. Favorable consideration and early formal allowance are respectfully requested.

Respectfully submitted,

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